United States Government **Department of Energy**

memorandum

DATE: July 9, 1997 (Modified 8/11/97)

REPLY TO ATTN OF: EH-53 (R. Sastry, 301-903-4664)

SUBJECT: Chemical Safety Concerns / Search of Occurrence Reporting and Processing System (ORPS)

TO: Distribution

Significant Occurrences

June, 1997

Class 1:

None

Class 2:

None

Additional:

At Hanford, two drums containing hydroxylamine nitrate were discovered; additionally, bulging waste drums (received from ANL) were also discovered. At Savannah River, occurrences involving a retort from a spark arrestor and nitric acid fumes resulted in employees being sent for medical evaluations. At the Strategic Petroleum Reserve (Weeks Island), a bulldozer inadvertently breached a natural gas pipeline.

These occurrences are further described below with additional information, including Occurrence Report (OR) numbers, provided in the Attachment.

A search of ORPS for occurrences having chemical safety relevance conducted for the month of June 1997 produced 30 reports representing potential chemical safety concerns. These occurrences are listed in the Attachment. There was one occurrence categorized as "Unusual" with the remainder identified as "Off-normal". The Office of Environmental Management (EM) was Cognizant Secretarial Office (CSO) for 17 occurrences; Defense Programs (DP) reported eight; Energy Research (ER) had four; and Fossil Energy (FE) one. The CSO designation may change after the distribution of this monthly memorandum, and this change will be reflected in Quarterly and Annual Reviews.

In order to determine which chemical safety occurrences represent more important (significant) Levels of Concern, a classification scheme has been developed. The definitions of these Classes are as follows:

Class 1 Occurrences characterized by an injury or exposure requiring hospital treatment, or confirmed, severe environmental effect; also occurrences that had the potential to cause these effects with

	all safety barriers down, except, for example, that no one was nearby to be injured or exposed, or escaped in time, or the climatic conditions were favorable;
Class 2	Occurrences characterized by minor injury (first aid) or exposure, or minor environmental damage; also occurrences that were near misses (where one additional safety barrier remained to prevent consequences) to those in Class 1;
Class 3	Potential precursors to the occurrences in Class 1 or 2;
Class 4	Minor occurrences such as leaks, spills, or releases, which may be significant in their frequency of occurrence though not in their consequences.

There were no Class 1 or Class 2 occurrences reported during June. There were 17 Class 3 occurrences. Among the Class 3 occurrences, in addition to those noted previously, were two at Savannah River involving nitric acid: one the degradation of a structural beam from corrosion and the other the inadvertent shipment of nitric acid instead of hydroxylamine nitrate. Two occurrences involving safety analysis inadequacies were also noted: one at Y-12 concerning potential for release of gaseous phase uranium hexafluoride and the other at Hanford wherein a worst case release of chlorine had not been evaluated. A potential exposure to mercury occurred at Brookhaven.

Additional information regarding these occurrences and others will be discussed in an upcoming Quarterly Review; some are currently summarized on the website. As occurrence reports are finalized, lessons learned will be communicated.

[Signature of]

Rama Sastry
Office of Field Support

Attachment

Note to Distribution:

This report is distributed via e-mail either as a WordPerfect or a text file. Please contact **John Usher** (516-344-2096, Fax: 516-344-3957, E-mail: usher@bnl.gov) at Brookhaven National Laboratory to be placed on e-mail distribution. If you want to receive hardcopy, please contact John Usher who will make every effort to accommodate you.

The DOE Chemical Safety Program homepage is now available. The Internet address for this site is http://tis-hq.eh.doe.gov/web/chem_safety/. This report is accessible using the Chemical Occurrences link via the homepage.

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